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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,153	12/18/2001	Tadashi Yamaguchi	KAN 137	6665
23995	7590	10/08/2003		
RABIN & CHAMPAGNE, PC 1101 14TH STREET, NW SUITE 500 WASHINGTON, DC 20005			EXAMINER CHU, CHRIS C	
			ART UNIT 2815	PAPER NUMBER

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/020,153

Applicant(s)

YAMAGUCHI, TADASHI

Examiner

Chris C. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed on February 14, 2003 has been received and entered in the case.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda in view of Coico et al.

Regarding claim 1, Toyoda discloses in Fig. 11, Fig. 12 and page 2/6, section 0014 a semiconductor device, comprising:

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- a substrate (11) having a circuit forming surface (upper surface of 11), and having a plurality of electrode pads (19) provided on the circuit forming surface, said electrode pads being disposed to surround an area (17) of the circuit forming surface;
- a semiconductor element (29) mounted within the area of the circuit forming surface;
- a plurality of adhesive lines (27) adapted for use as reference lines, said adhesive lines being disposed under the semiconductor element and on the circuit forming surface, and being respectively provided at positions corresponding to at least three corners of the semiconductor element, said adhesive lines being adapted for use as a reference for determining a correct placement of the semiconductor element within the area of the circuit forming surface, said adhesive lines adhering said semiconductor element to the circuit forming surface of said semiconductor substrate; and
- a sealing resin (33) that seals said semiconductor element.

Toyoda does not disclose the substrate to be semiconductor substrate. However, Coico et al. discloses in Fig. 2 and column 3, lines 5 and 6 a substrate (15) to be semiconductor substrate. Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to modify Toyoda by using the semiconductor substrate as taught by Coico et al. The ordinary artisan would have been motivated to modify Toyoda in the manner described above for at least the purpose of reducing a thermal difference between the chip and the substrate.

Regarding claim 20, the reference lines (27) extending beyond and outside an area (an area under the chip 29) that is sealed by said sealing resin (33).

*Response to Arguments*

4. Applicant's arguments filed on July 7, 2003 have been fully considered but they are not persuasive.

On page 4, applicant argues "in contrast to the present invention, this reference does not disclose or otherwise suggest a plurality of adhesive lines which are adapted for use as reference lines, as recited by Applicant's independent claim 1." This argument is not persuasive. Toyoda states in page 2/6, section 0014 that adhesives 27 are applied on the diamond touch pattern 17 of the circuit board 25, and a semiconductor chip 29 is carried on it, and it is made to dry until adhesives 27 harden. Thus, Toyoda discloses a plurality of adhesive lines (27) under the semiconductor chip (29). Furthermore, the limitation "which are adapted for use as reference lines" is intended use language. The intended use of the claimed invention must result in a structural difference between the claimed invention and Toyoda in order to patentably distinguish the claimed invention from Toyoda. Since Toyoda's adhesive lines (27) are capable of performing the intended use, Toyoda meets the claim.

For the above reasons, the rejection is maintained.

*Conclusion*

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

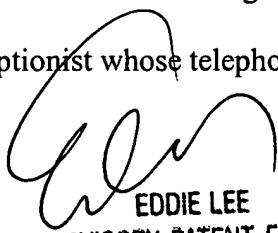
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is (703) 305-6194. The examiner can normally be reached on M-F (10:30 - 7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

Chris C. Chu  
Examiner  
Art Unit 2815

c.c.  
September 30, 2003